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**Proteases.**—VINES,<sup>23</sup> in continuing his work on the proteolytic enzymes of plants, finds that both malt extract and taka-diastase (Parke Davis and Co.) contain enzymes capable of digesting fibrin and of splitting peptone. From malt extract he has isolated the peptone-splitting enzyme free from the fibrin-digesting body, and from taka-diastase he separated each from the other. Both these enzymes seem to act best in acid media. In animal tissues there are two fibrin-splitting enzymes:  $\alpha$  protease, weak and acting in basic media; and  $\beta$  protease, more powerful and acting in acid media. By special methods of preparation, VINES obtained a protease which acted best in neutral and basic media. This perhaps corresponds to the  $\alpha$  protease of animal tissues. The ereptases, peptone-splitting enzymes, of animal tissues act best in basic media. VINES's work shows that plant ereptases act in acid media. As to terminology, one is inclined to believe that VINES could adopt profitably that of animal workers as given by VERNON.<sup>24</sup>—WILLIAM CROCKER.

**A new genus of Cordaitales.**—SCOTT and MASLEN<sup>25</sup> have described a new genus (*Mesoxylon*) of Cordaitales from the calcareous nodules of the Lower Coal-measures of Lancashire. It is intermediate between *Poroxylon* and *Cordaites*, as its name implies, including five species which have been referred heretofore to these two genera. The combination of characters is the anatomical habit of *Cordaites* and the centripetal xylem of *Poroxylon*. The pith is relatively large and discoid (as in *Cordaites*); the wood is dense, with narrow pith rays and relatively small tracheids; the leaf traces are double, but divide before entering the leaf; the centripetal xylem is present in the leaf traces at the margin of the pith (as in *Poroxylon*) and throughout their course to the leaves. The genus is thought "to completely bridge the gap, so far as anatomy is concerned, between the Poroxyleae and the Cordaiteae," and helps to connect the cordaitean and later forms (excepting cycadophytes) with the "pteridosperms."—J. M. C.

**"Bars of Sanio" in Coniferales.**—The "bars of Sanio" are "folds" of cellulose to be observed in the walls of tracheids as horizontal or more or less semicircular markings, which stand out clearly with proper staining. Miss GERRY<sup>26</sup> has investigated their distribution among the Coniferales, and has discovered that they furnish a constant and useful character in the determination of fossil woods. They were found in 35 of the living genera, but do not occur in *Agathis* and *Araucaria*, nor in the mesozoic araucarians. Since they do occur in the podocarps, it is concluded that this group is more closely related to the Abietineae than to the Araucarineae, a conclusion which contradicts a growing conviction based

<sup>23</sup> VINES, S. H., Proteases of plants. *Annals of Botany* **24**:213-222. 1910.

<sup>24</sup> VERNON, H. M., *Intracellular enzymes*. London: John Murray. 1908.

<sup>25</sup> SCOTT, D. H., and MASLEN, A. J., On *Mesoxylon*, a new genus of Cordaitales (preliminary note). *Annals of Botany* **24**:236-239. 1910.

<sup>26</sup> GERRY, ELOISE, The distribution of the "bars of Sanio" in the Coniferales. *Annals of Botany* **24**:119-124. *pl. 13.* 1910.